Advanced Lighter Simulator

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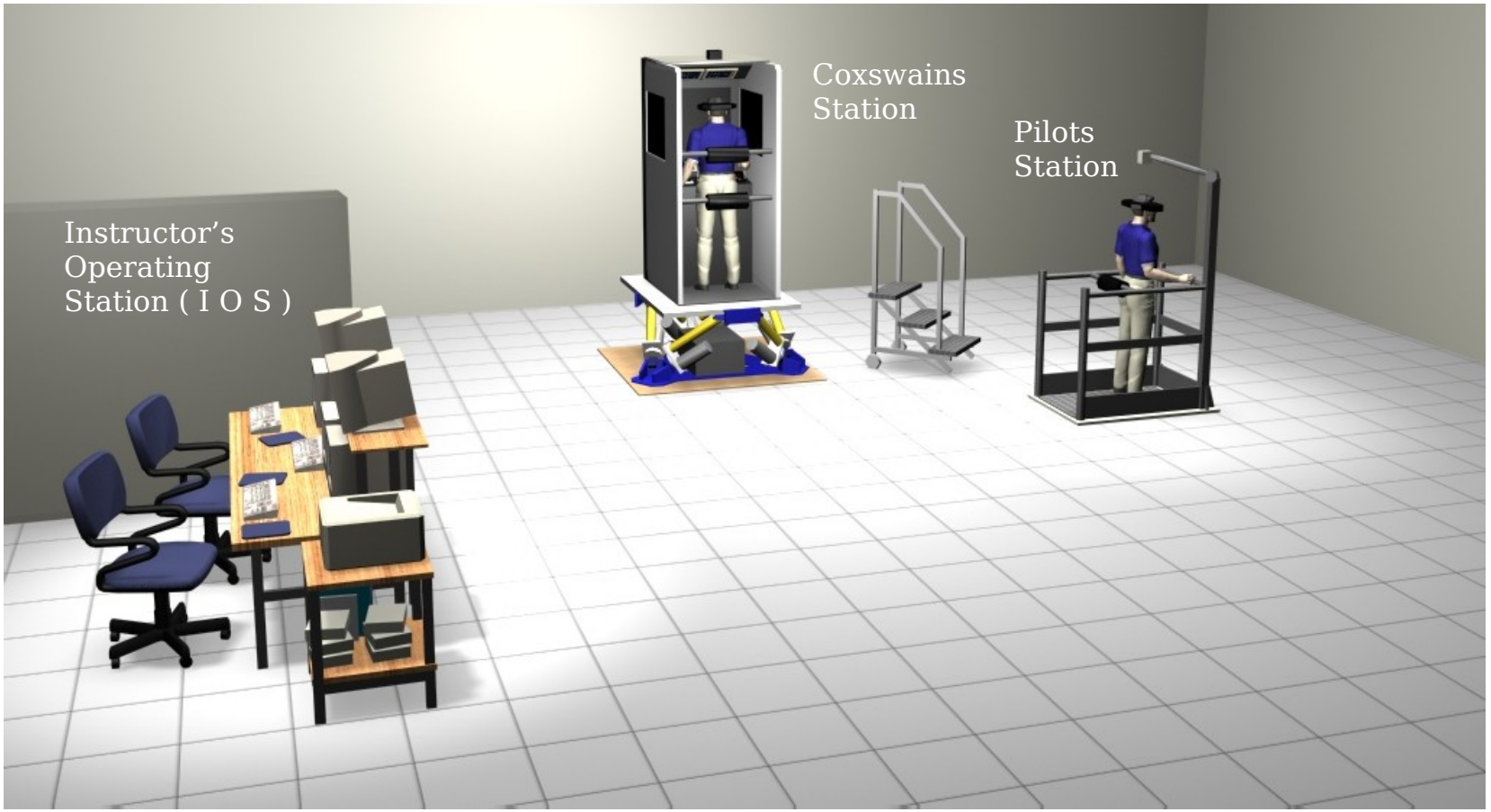
Advanced Lighter Simulator

- Hardware overview
- Status

Advanced Lighter Simulator
Hardware Overview

- **Coxswain station**
- **Pilot station**
- **Instructor / operator station (IOS)**

Advanced Lighter Simulator System Overview



HMD TRACKER
SAFETY RAIL
ACCESS LADDER
PILOT STATION MOCK-UP
MOTION BASE

Instructor / Operator Station (IOS)

Instructor / Operator Station (IOS) Hydro Workstation

- Runs Virtual Ship* (VSHIP®) Hydrodynamics Model
- Drives Coxswain and Pilot View Displays
- Drives Coxswain and Pilot HMDs
- “Talks” to all other computers

* Virtual Ship and VSHIP are trademarks of CSC / Advanced Marine

Instructor / Operator Station (IOS) Virtual Situation Display

- Provides Visual Overview (bird's eye view) of scenario in which simulation exercise is being run
- Shows land masses, Traffic ships, Ownship
- Shows Navigation Aids
- Can Zoom In/Out
- Can Move Window of Viewing [left, right, up, down]
- Can Display freeze-frame view of ownship icon
- Can introduce & control traffic ships
- Displays and records ownship data (coordinates, heading, speed, etc)
- Allows Instructor / Operator to re-position ownship

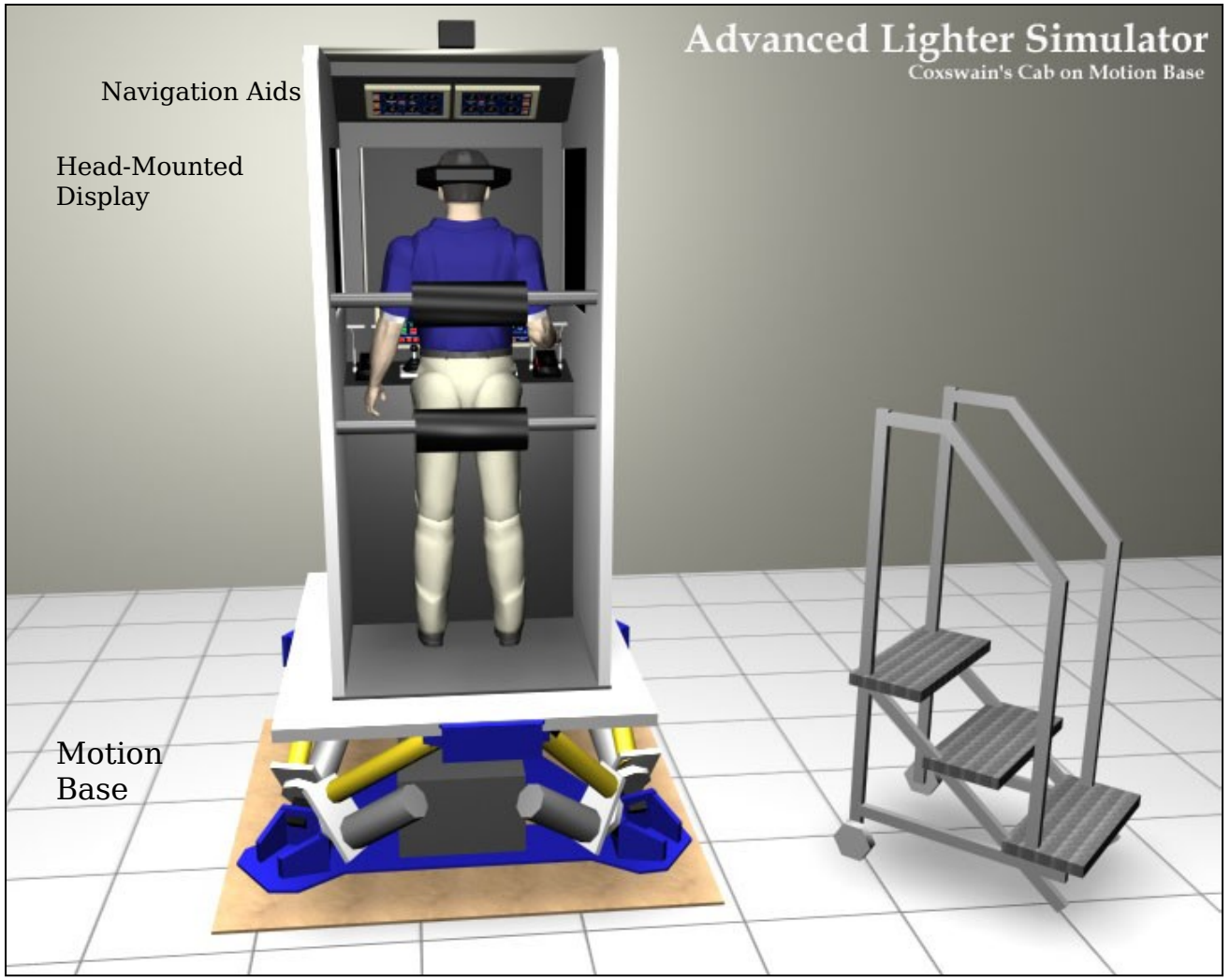
Instructor / Operator Station (IOS) Simulator Control Display

- Displays ownship status (location, heading, speed, etc)
- Displays Simulation Duration
- Allows toggle between bridge mode and Instructor Mode
- Allows Instructor to freeze simulation
- Displays environmental, visual, mooring, traffic ships, alarms, failures, malfunctions, sounds, etc parameters and conditions
- Allows Instructor to select one of eight pre-defined SLWT/CSP/Causeway Ferry configurations
- Allows Instructor to introduce failures or warning conditions

Environment Control Window of Simulator Display

- Visibility by time of day, by distance, by weather conditions
- Weather (clear, haze, fog, rain)
- Current speed and direction
- Wind speed and direction
- Wave height and direction
- Introduce sounds (traffic ships, seagulls, rain volume, thunder volume and frequency)

Coxswain Station



Coxswain Station
Slide 1

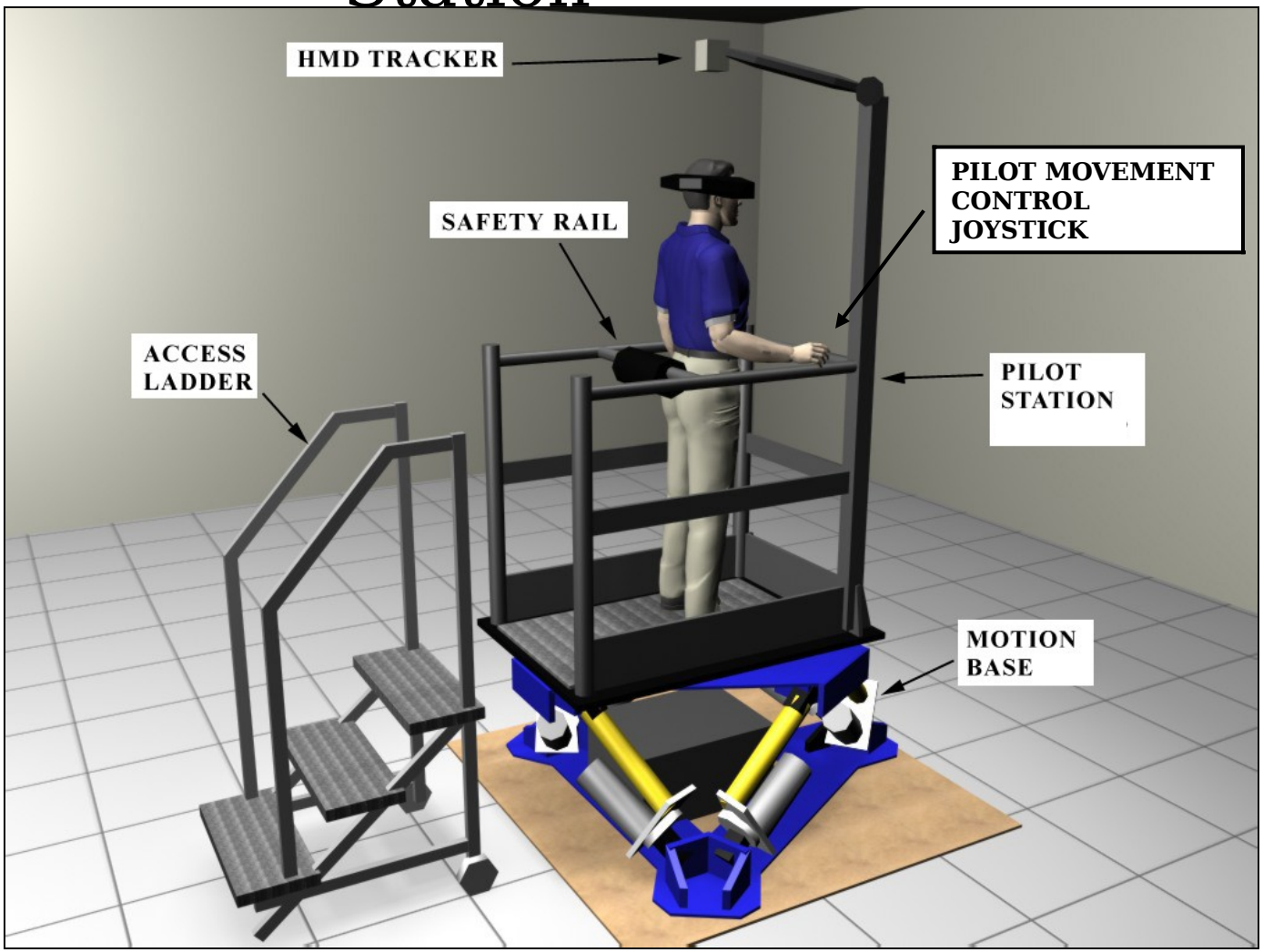
- Duplicates controls & Visuals of CSP/SLWT
- Overhead & console mounted touch screens
- Ship control console
  - Port and starboard throttle and clutch levers
  - Port and starboard water jet direction joysticks
  - Center levers are “backup” joysticks
  - Alarms and whistle display panel

Coxswain View via head-mounted display

Coxswain Station
Slide 2

- Command Information Display for ship control
  - Heading, Speed, Rate of turn
  - Rudder Angle, Propeller RPM
  - Water depth
  - Wind speed and direction

Pilot Station



Advanced Lighter Simulator
Status

1. **Installed at LittleCreek, VA**
2. **PHIBCBs have begun to incorporate the simulator into their formal training program**
3. **Pilot arm tracking issues resolved, permanent hardware to be installed**
4. **Additional features to be installed**
5. **Updated documentation to be provided**
6. **Training effectiveness study to be performed**

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